**Systems Data Architect for Type1 Diabetes (T1D)**

**Duties and responsibilities:**

The T1D Consortium is a new initiative of the Harvard Stem Cell Institute focused on identifying the cause[s] of T1D. Starting with a thorough understanding of the current state of research, and defining new questions by harnessing and exploiting the power of data, the Consortium seeks to nimbly adjust the trajectory of research to expedite solutions. The project is based at Harvard and includes the participation of eminent diabetes researchers from across the globe. Reporting directly to the Biomedical Research Architect, and with open door access to the HSCI Director and the T1D Consortium Director, this person serves as a key member of the Research Architecture Group and will conceive, develop, design and implement statistical analysis, data base management, and data mining solutions to support this initiative. The resulting T1D information repository and the analysis of data will lead to the design of experiments and research programs that directly address the key questions in the field and lead to an understanding of the cause[s] of T1D.

**Key activities include the following:**

Develop a system that allows one to collect, collate, synthesize and analyze large amounts of data (extracted from literature and primary data) from such research areas as pancreatic islets, immune system, genetic, environmental signals, and the microbiome.

In conjunction with leading research scientists and selected experts, help identify and define the key questions in the field through the manipulation of big data. Apply algorithms from a standard toolbox or perform custom algorithm development based on predictive models.

Perform ad hoc statistical and data mining analyses. Present results to Consortium leaders and participating Principal Investigators.

Contribute to the preparation and submission of proposals on behalf of, or in conjunction with, leading experts in the field.

Work effectively in a team including biomedical scientists.

Creativity to go beyond current tools to deliver the best solution to research problems.

Ensure that the overarching goal of the research architect group remains central as a research priorities and foci shift.
**Basic qualifications:**

Bachelor’s degree in science/computer science/statistics, preferably with a focus in computer applications including database construction and manipulation, and website development. Excellent oral and written presentation skills. Ability to communicate complex data clearly and effectively with teams of people. Strong working knowledge of database modeling and data warehousing principles and queries to extract/process data. Familiarity with data mining algorithms including decision trees, probability networks, association roles and clustering regression. Must have a strong respect for confidentiality and an ability to diplomatically interact with groups of people from different backgrounds and with different interests.

**Additional Qualifications:**

Experience with very large datasets and web based data management. Understanding of the scientific research milieu. Commitment to forward progress in identifying the root causes[s] of type 1 diabetes.